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A STUDY OF FOUR ETHNIC GROUPS IN DRUG TREATMENT

A Thesis

Presented to

The Faculty of the Department of Psychology

San Jose State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Arts

By Wynnie Wong

May 2006

UMI Number: 1436961

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ABSTRACT

A STUDY OF FOUR ETHNIC GROUPS IN DRUG TREATMENT

by Wynnie Wong

This study compares primary drug of choice, length of use, frequency of use, and first treatment attempts rates among four ethnic groups: Asian Pacific Islander (API), Caucasian, African American, and Latino. A national treatment episode sample, Treatment Episode Data Set (TEDS), was collected and analyzed. Analyses of 470,606 treatment episodes were conducted using chi-sq (χ_2) and ANOVA tests. Results show that APIs had the third largest proportion of heroin/opiate use after Latinos and Caucasians. APIs had the highest proportion of marijuana use of the four groups. APIs had the second highest proportion of cocaine/crack use after African Americans. Though ANOVA results revealed an overall difference among the four groups in terms of drug use pattern, data showed that APIs had heavy drug use. APIs yielded the highest percentage of first time treatment attempts of the four groups.

ACKNOWLEDGEMENTS

I would like to give special thanks to the following people:

Howard Tokunaga, Ph.D., who gave the most frank and practical feedback and guidance through this long and gruesome process. I respect and admire your patience and never ending support for me when I did not believe I could finish this project.

Megumi Hosoda, Ph.D., who gave me undivided attention on my thesis. I really appreciated your attention to details and your lovely giggles that helped relieve a lot of the stress during this process.

Paul Barnett, Ph.D., who encouraged and pushed me to finish this project. I really appreciate and respect you not only as my "boss" but also a mentor and an advisor. Thank you for providing me the necessary resources to complete this project.

Simon, from my boyfriend to now my husband, for being a silent supporter all the way. Despite our unpredictable and hectic life, you have managed to be so patient and supportive during this emotional process. Thank you again and you have earned more of my love and respect.

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Introduction

The Asian Pacific Islander (API) population in the US occupies 4% of the total population today (*U.S. Census Bureau*, 2000). Even though APIs in the US are a relatively small ethnic population, illicit drug use is a growing issue in this community. Heavy drug use within the API community is well evident, however, studies regarding APIs enrolled in drug treatment and available data have been scarce.

Treating API's illicit drug use has been a challenge, because more research attention has focused on API's drug use in the general population rather than on APIs who are enrolled in drug treatment. The API community has also faced many challenges in treating drug use because of language and cultural barriers. Mien opium use in Oakland, California, is a good example of the cultural barriers APIs face in drug treatment. Mien, people originated in the mountains of Laos, do not have a written language and do not have the concept of addiction in their culture (Martin & Zweben, 1993). Mien see opium use as part of their normal life, and opium use has medicinal purposes (Martin & Zweben, 1993). The 14th Street clinic in Oakland had to adjust their treatment intervention to cater to Mien opium users (Martin & Zweben, 1993). They have to rely on verbal and audiovisual communication to educate and to treat Mien patients (Martin & Zweben, 1993). The clinic also had to rely on Mien community leaders to serve as a liaison to introduce treatment to the Mien community in order to establish trust and acceptance (Martin & Zweben, 1993). Acupuncture was used in place of pill or liquid medication to make treatment for opium more acceptable for Mien patients (Martin & Zweben, 1993).

Although studies concerning APIs who are enrolled in drug treatment have been few, national statistics show that APIs entering drug treatment have increased tremendously in the last decade (*The Dasis Report*, 2002; Yi & Daniel, 2001). To better understand and serve API's treatment needs, it is important and necessary to understand the drug use characteristics of APIs who are enrolled in drug treatment programs today. The purpose of this study is to examine drug use characteristics of APIs who are enrolled in public treatment programs and how they compare to other ethnic groups.

Illicit drug use among APIs

There have been numerous research studies on APIs and their drug use in the last decade. Heavy drug use among different sub-groups of the API population is well documented (D'Avanzo, 1997; D'Avanzo, Frye, & Froman, 1994; Nemoto et al., 1999; Nemoto, Operario, & Soma, 2002; Yi & Daniel, 2001). Research also shows that API's illicit drug use patterns and behaviors vary within and across their ethnic groups (D'Avanzo, 1997; D'Avanzo et al., 1994; McLaughlin, Raymond, Murakami, & Goebert, 1987; Nemoto et al., 1999; Nemoto et al., 2002; Westermeyer, 1978; Westermeyer, Lyfoung, Westermeyer, & Neider, 1991; Yi & Daniel, 2001). Different API sub-groups use different types of drugs and use different ways to take their drugs. There are many studies that have investigated South Asians' drug use experience amid their stressful refugee experience (D'Avanzo, 1997; Martin & Zweben, 1993; Westermeyer, 1978; Westermeyer et al., 1991). Indo-Chinese have opium dependence problems, with their drug dependence beginning in their homeland before they came to the US. In another study, Cambodian women in the West and East coast reported using alcohol, prescription drugs, and marijuana frequently and regularly (D'Avanzo et al., 1994). In San Francisco,

heavy methamphetamine or "shabu," drug use among Filipino has been reported as a serious problem (Nemoto et al., 1999; Nemoto et al., 2002). Among Filipinos who used methamphetamines, they also reported using marijuana, cocaine, crack, heroin, and hallucinogen (Nemoto et al., 2002). Eleven percent of the Filipino sample injected heroin and methamphetamine, and over half of the sample reported themselves as poly-drug users in the past month (Nemoto et al., 2002).

Drug use pattern and drug of choice among different API sub-groups may vary by geographic location and demographics. A study that sampled mostly immigrant Chinese and Vietnamese in San Francisco found that their primary drug of choice was crack, cocaine, and heroin (Nemoto et al., 1999). Both Chinese and Vietnamese mainly smoke their drugs and injected minimally (Nemoto et al., 1999). But in another study, Vietnamese college students in Houston reported using alcohol, cigarettes, and marijuana, and had minimal reporting on use of heroin, cocaine and methamphetamines (Yi & Daniel, 2001). Because these studies were based on non-randomized sample, it is difficult to suggest how much of these findings can be generalized to the larger population of the APIs. The majority of studies that focused on API drug use were based on APIs who are not enrolled in drug treatment.

Despite all the progress research on APIs and their drug use has made, there have been a number of challenges that face research on API's drug use. A lack of available national data documenting API drug use prevalence and patterns has been mentioned in many studies (Ja & Aoki, 1993; Nemoto et al., 2002). For example, data on API's drug use are often not being collected or are being collected as the "Other" category, including other ethnic groups (Ja & Aoki, 1993; Yi & Daniel, 2001). Furthermore, the API

community is often perceived as the "model minority" and is seen as the invisible community unaffected by drug use (Ja & Aoki, 1993; Yi & Daniel, 2001). Finally, APIs are too diverse, and categorizing Asians under one heading is too limited (Nemoto et al., 2002; Yi & Daniel, 2001). To overcome these challenges, many recent research studies have focused on collecting original and qualitative data in the last decade to provide new data and perspectives from many API sub-groups (D'Avanzo et al., 1994; Martin & Zweben, 1993; Nemoto et al., 1999; Nemoto et al., 2002). The focus of research on API's drug use has been on disaggregating the APIs population and documenting drug use patterns among API drug users who are not enrolled in treatment programs. However, by disaggregating the API community in research, the result was a scattered picture of the community that is small in scale and scope. What has been lacking is research about API drug use that is based on a larger sample size whereby generalizations can be made to the larger Asian population as a whole. Most of the current research studies are based on out of treatment samples, which also have their limitations. The understanding of drug use among APIs who are not enrolled in treatment is only part of the larger issue. Another part of dealing with drug abuse is finding effective treatment. Thus, we also need to know the characteristics of APIs who are seeking treatment and understand what their treatments needs are.

The downside of disaggregating API community in research studies is that the findings are too specific and not generalizable. Research studies conducted on different API sub-groups were about different drug use topics and had small non-randomized samples. (D'Avanzo et al., 1994; Martin & Zweben, 1993; Nemoto et al., 1999; Nemoto et al., 2002; Westermeyer, 1978; Westermeyer et al., 1991; Yi & Daniel, 2001). When

different studies are conducted on different topics and different sub-Asian populations, it is difficult to assess the big picture of the problem for the API population. Current research documenting API drug use had provided more evidence on the topic (D'Avanzo et al., 1994; Ja & Aoki, 1993; Martin & Zweben, 1993; McLaughlin et al., 1987; Nemoto et al., 1999; Nemoto et al., 2002; Yi & Daniel, 2001). However, to get a better understanding of the API drug use, we need more research with larger sample sizes and especially a national perspective on API illicit drug use.

APIs in comparison studies regarding illicit drug use

APIs are often times included in comparison studies. When APIs are compared to other ethnic groups, a drug use prevalence rate was generally lower. Au and Donaldson (2000), comparing Asian American and Caucasian seventh graders, found that Asian students were less likely to use alcohol and cigarettes than Caucasian students. In a five year study conducted by Maddahian, Newcomb, and Bentler (1985), Asian American students only reported using alcohol, and the data showed that Asian students drank less than the comparison groups over the period of the study. In the initial year, Asian students reported alcohol use at 72%, while Hispanics reported 89%, Blacks 83%, and White 88% (Maddahian, Newcomb, & Bentler, 1985). By the final year of the study, close to 30% of the Asian students reported not using any drugs, the highest non-use rate compared to the other ethnic groups (Maddahian et al., 1985).

Although there are many comparison studies on adolescent drug use that included API as one of the comparison groups, comparison studies of API adult population with other ethnic groups have been only a handful. A majority of the comparison studies where API is one of the comparison groups were studies investigating adolescent drug

use prevalence and drug use pattern (Au & Donaldson, 2000; Blake, Ledsky, Goodenow, & O'Donnell, 2001; Maddahian et al., 1985; Wong, Klingle, & Price, 2004). Among the studies of adolescents, APIs reported using alcohol, cigarettes, and marijuana (Au & Donaldson, 2000; Blake et al., 2001; Maddahian et al., 1985; Wong et al., 2004). Generally, APIs have a lower or the lowest prevalence rate compared with other ethnic groups. A study conducted in Hawaii found that APIs do have a lower prevalence rate than Caucasian and Native Hawaiian (Wong et al., 2004). The three API groups, Chinese, Japanese, and Filipino, reported using alcohol, cigarettes, marijuana, inhalants, and hallucinogens, but these three groups had lower drug use prevalence than Caucasians (Wong et al., 2004). For studies of adult population, there have been only minimal data documenting APIs in comparison studies. McLaughlin et al. (1987) compared Filipino, Chinese, and Japanese to Caucasian and Native Hawaiian. While treating Native Hawaiian as a non-Asian group, the three API groups reported using tranquilizers, marijuana, and painkillers (McLaughlin et al., 1987). Chinese reported the highest drug use rate of the three API sub-groups but had a lower prevalence when compared to Caucasian and Native Hawaiian (McLaughlin et al., 1987).

Of the comparison studies on API adult samples, many studies have been on alcohol use, and not enough studies have been on their illicit drug use (Caetano, Clark, & Tam, 1998; Kitano, Chi, Rhee, Law, & et al., 1992; Tsunoda, Parrish, Higuchi, Stinson, & et al., 1992; Weatherspoon, Danko, & Johnson, 1994; Wong et al., 2004). Comparison studies of adult drug use population that included APIs are clearly lacking. Because many research studies that focused on API's drug use have documented heavy drug use

among them in recent years, the next logical step is to explore API's drug use in relation to other ethnic communities.

Although the API population is included in a number of comparison studies, APIs are seldom the focus of the study and the findings associated with APIs are interpreted as relatively insignificant (Blake et al., 2001; Maddahian et al., 1985). APIs are typically the smallest comparison group with a lower drug use prevalence than other ethnic groups (Blake et al., 2001; Maddahian et al., 1985; Wong et al., 2004). This conflicts with the general drug use pattern found among APIs indicating that they engage in heavy drug use (D'Avanzo, 1997; D'Avanzo et al., 1994; McLaughlin et al., 1987; Nemoto et al., 1999; Nemoto et al., 2002; Westermeyer, 1978). We have gained new knowledge about API drug use in comparison studies, but we need more comparison studies that focus on APIs to gain more insights about API's drug use.

Research on APIs enrolled in drug treatment

There have been a small number of studies that examine APIs who are in drug treatment. In the 1990's, a number of studies have documented heavy opium use among Mien and Indo-Chinese and the cultural barriers they encounter in treatment (Martin & Zweben, 1993; Westermeyer, 1978). In a study in Oakland, 80% of the 3000 Mien population reported to use opium (Martin & Zweben, 1993). Westermeyer studied 50 Indo-Chinese patients from a Minnesota clinic and found that they mainly ingested opium and more than half of the sample used opium daily (Westermeyer, 1978; Westermeyer et al., 1991). Studies on APIs enrolled in treatment are limited and the studies are quite out dated. Most of the studies were conducted over ten years ago with a small sample size and were based on non-randomized samples. However, recent national statistics show

that there is a steep increase in a treatment enrollment rate among APIs (*The Dasis Report*, 2002). In 1999, API population comprised less than one percent of the total admissions to substance abuse treatment facilities in the U.S. (*The Dasis Report*, 2002). Despite the fact that the APIs comprised a small percentage of the total population admitted to treatment in the U.S., an API's rate of enrollment in drug treatment has increased by 37% between 1994 and 1999 (*The Dasis Report*, 2002). Stimulant use is growing in the API community and they are seeking treatment. Between 1994 and 1999, 19% of all admissions for stimulant use were APIs (*The Dasis Report*, 2002). Female APIs admitted to treatment for stimulant abuse went from 16% in 1994 to 25% of the total API population in 1999 (*The Dasis Report*, 2002). APIs admission to treatment for stimulant abuse was four times higher than the total treatment population in 1999 (*The Dasis Report*, 2002). Based on these recent national data, past research findings of API in treatment do not reflect the reality of APIs in treatment today. A study regarding APIs enrolled in treatment is necessary to update and provide a new perspective on API treatment.

Studies that focus on APIs who are enrolled in drug treatment has been minimal, and we do not know much about APIs' treatment experiences or their drug use characteristics. It is in the early 1990's that researchers became aware of the issues concerning API's drug use and how the lack of data and treatment underutilization had masked the reality of illicit drug use in the API community. More recent research on APIs has demonstrated the challenges in treating API drug users and the specific treatment needs of APIs (Ja & Aoki, 1993; Martin & Zweben, 1993; Perez-Arce, Carr, & Sorensen, 1993). There are many reasons why there have been a small number of

research studies that focused on APIs in treatment. First, a number of APIs admitted to treatment has been relatively low. Second, the API community faces cultural barriers in accepting mainstream treatment models because they are not used to the Western developed treatment models that involve direct communications and professionals they are unfamiliar with (Ja & Aoki, 1993; Martin & Zweben, 1993; Perez-Arce et al., 1993). Therefore, many studies have focused on exploring factors and documenting social challenges that hinder API enrollment in treatment, focusing less on treatment and drug use characteristics (Perez-Arce et al., 1993). We now need studies to characterize drug use pattern and drug treatment use by APIs who are enrolled in treatment.

There is enough evidence that APIs engage in heavy drug use and have a unique drug use pattern affected by their social and cultural environment (D'Avanzo et al., 1994; Nemoto et al., 1999; Nemoto et al., 2002; Wong et al., 2004). Marijuana, methamphetamine, crack/cocaine, opium, and tranquilizer are popular drugs of choice among API drug users (*The Dasis Report*, 2002; D'Avanzo, 1997; D'Avanzo et al., 1994; Martin & Zweben, 1993; McLaughlin et al., 1987; Nemoto et al., 1999; Nemoto et al., 2002). Even though many studies have examined substance use among APIs, very few studies have focused on APIs who are enrolled in drug treatment in a comparison study (Ja & Aoki, 1993; Martin & Zweben, 1993; Perez-Arce et al., 1993; Westermeyer, 1978; Westermeyer et al., 1991). APIs still face cultural and language barriers in treatment, but the number of APIs entering drug treatment has been on the rise in recent years, notably treatment for stimulants (*The Dasis Report*, 2002; Ja & Aoki, 1993; Martin & Zweben, 1993; Perez-Arce et al., 1993). To describe the drug use and treatment characteristics of APIs relative to other ethnic groups admitted to treatment, the current study examines the

primary substance problem, a drug use pattern, and a treatment drop out rate among APIs, African Americans, Latinos and Caucasians admitted to treatment based on a national sample. This study tested the following four hypotheses:

Hypothesis 1. APIs have a different pattern of drug of choice than other ethnic groups in terms of heroin/opiates, marijuana, and cocaine/crack.

Hypothesis 2. APIs entering treatment have a higher drug use frequency than the other three ethnic groups.

Hypothesis 3. APIs entering treatment have a longer drug use history than other ethnic groups.

Hypothesis 4. APIs have higher rate of first treatment attempt than other ethnic groups.

This study also had a different focus from many comparison studies where APIs were the focus of the study instead of being treated as one of the comparison groups in the study.

Method

Participants

The sample size was 470,606 treatment episodes (2,563 Asian Pacific Islander, 235,951 Caucasian, 172,908 African American, and 59,184 Latino) for 2001. A treatment episode is defined as the period of the service(s) between the beginning of a treatment service for a drug problem and the termination of service(s) for the prescribed treatment plan. Sixty-six percent of the sample was male. The sample included adults 18 years of age or older. Half of the sample was of ages between 30 and 44. Among the API sample, 73% were male. Among the Caucasian sample, 64% were male. Among the African American sample, 65% were male. Among the Latino sample, 77% were male.

Procedure

Admission data were obtained from the Treatment Episode Data Set (TEDS) maintained by the Substance Abuse and Mental Health Services Administration (SAMHSA) for year 2001 (SAMHSA.(n.d.), 2004). The analysis criteria were adult patients 18 years of age or older, belonging to one of the four ethnic groups: Asian Pacific Islander, Caucasian, African American, and Latino, and the primary drug problems reported in the episode were one of the following drugs: cocaine/crack, marijuana, or heroin/other opiates. Nine variables from the 2001 TEDS data that described the demographics, drug use history, primary drug use problem, and the drug use pattern of each episode were abstracted from the data system for the analysis. Data were reviewed, and records with a missing value in any variables considered in the analysis were excluded from the analysis.

In the TEDS data system, "race" and "ethnicity" data were collected. "Ethnicity" was used to identify the different Latin groups, such as Mexican, Puerto Rican, or Hispanics not specified. "Race" was used to categorize the other ethnic groups, such as Caucasian and Asian Pacific Islander. Latinos comprised of multiple ethnic categories that described the Latino population in the TEDS data system. "Ethnicity" was used in the analysis to qualify Latino population, but "Race" was used to qualify people of other ethnic backgrounds. Latino population in this study included these ethnic categories in the TEDS system, people of Puerto Rican, Mexican, Cuban, and other specific Hispanics. A patient of Latino background would report "race" as "Caucasian" or "Other" and also reported one of the Latino groups in "Ethnicity." In cases where the patient reported a "race" and also completed being ethnically Latino, these cases were counted in the Latino sample.

The data in TEDS do not represent all treatment services delivered in the U.S. In general, SAMHSA collects admission data from state certified and licensed drug treatment agencies in the United States. TEDS does not include all admissions to substance abuse treatment in the United States. Due to state licensing regulations, which differ from state to state, certain types of facilities are not consistently included in TEDS. Facilities that may not be counted in TEDS include (1) private facilities, (2) independent practitioners, (3) hospital based drug treatment programs not certified by state, (4) correctional facilities, (5) federally funded treatment programs. TEDS data are admission based treatment episode data, and the data do not represent individuals. Individual patients cannot be identified in the TEDS data to ensure confidentiality.

Table 1. Demographic Variables of the TEDS Sample (N=470606)

Variable	Percentage
Gender	
Male	66.17%
Female	33.83%
Ethnic groups	
Asian American Pacific Islander	.54%
Caucasian	50.14%
African American	36.74%
Latino	12.58%
Age	
18-20	9.79%
21-24	13.21%
25-29	14.02%
30-34	17.37%
35-39	18.51%
40-44	14.46%
45-49	8.05%
50-54	3.22%
55 and over	1.36%
Drug	
Heroin/opiate	40.32%
Coke/crack	33.41%
Marijuana	26.27%

Instruments

The reporting instrument used by TEDS is described in detail at its Internet website (SAMHSA.(n.d.), 2004). The instrument used in the TEDS is a 17-item survey in the minimum data set. Questions in the minimum data set are required by all agencies submitting to the TEDS system. Variables included in this study consisted of demographics, drug use history at admission, drugs of choice, age of first use, frequency of use, and prior episode data. TEDS not only documents primary drug used at admission but also frequency of use, and age of first use. In regards to treatment data, TEDS documents whether the current episode is the first treatment attempt. If the episode was not the first attempt, the system would document that there were prior attempts.

Primary substance problem. "Primary substance problem" in TEDS was used to assess the primary drug problem for which patients are admitted to treatment. The variable "primary substance problem" was recorded in TEDS as a categorical variable. Substances were categorized into 18 categories. Three of the eighteen substances were analyzed in this study. They were cocaine/crack, marijuana, or heroin/other opiates. Each drug category was represented by a numeric value. This study examined the number of drugs reported by each ethnic group and compared the percentages of each drug across the four ethnic groups in the analysis.

Length of use and frequency of use. The length of time and frequency that a person engaged in using a substance were analyzed in this study. A drug use was measured by three variables in the TEDS. They were "Year of admission," "Age of first use," and "Frequency of use" of the primary substance reported.

Length of use was a difference between "Age of first use" and "Year of admission" as expressed in years. "Age of first use" was reported in 12 categories. The twelve categories were "11 and under", then "12-14,' 15-17," and the last category is "55 and over." In order to obtain the number of years of use, "age of first use" needed to be transformed into a numeric value. In this analysis, a mid-point of each "age of first use" category was used to represent the average age of first use. For example, age group "11 and under" would be transformed to "6" to represent the average age between 1 through 11. The length of use is the "age" of the patient at the time of admission to treatment minus the transformed value of 'age of first use. "Age" was also recorded in nine categories and each category was a 4-5 year range. "Age" was transformed so a mid-point of each age category was used to represent the average age of the patient in the treatment episode. There was one record where the patient in the episode began drug use at the same age as their current age so age minus age of first use had zero value. There were two episodes where the age of the patient was less than the age of first use and yielded a negative years of use. These three episodes were treated as administrative errors, and it was assumed the episode had one year of drug use as a conservative estimate.

"Frequency of use" was categorized in five groups to describe frequency of use up to past 30 days. There were five categories that described "frequency of use," "no use in the past month," "1-3 times in the past month," "1-2 times in the past week," "3-6 times in the past week," and "daily." In the analysis, "frequency of use" was transformed into a numeric value to represent the frequency of use in the last 30 days. For example, "1-3 times in the past month" was transformed to a 2 (mid-point between 1 and 3) value

to represent the average use in the past 30 days. If the response was "1-2 times in the past week," this was transformed to a 6 (1.5 x 4) to represent the average use in the past 30 days.

First treatment attempt. First treatment attempt was defined as the first time a patient received drug treatment for a drug use problem. "The number of prior episode" documented the number of prior episode for the particular treatment. If the treatment attempt was the first attempt, the "Number of prior episode" variable would document "no prior episodes" in the data system. The analysis counted the percentage of "no prior episodes," comparing among the four ethnic groups.

Results

Table 2 provides the percentages of drug of choice for each ethnic group examined. Of the three drugs, APIs reported heroin/opiates (40.69%) as the highest primary drug of choice within the group. Although the percentage is lower than Caucasian (44.29%) and Latino (61.33%), it is higher than African American (27.71%). APIs reported the highest percentage of marijuana as a primary drug of choice (31.80%), with Caucasian (19.97%), African American (23.80%) and Latino (18.50%). APIs reported 27.51% of cocaine/crack as their primary drug of choice, higher than Caucasian (27.75%) and Latino (20.17%), and lower than African American (48.49%).

APIs reported the highest proportion of heroin/opiate (40.69%). Caucasian and Latino reported the highest proportion of heroin use at 61.33 % and 44.29%, respectively. African American had the highest proportion of cocaine/crack 48.49%. A chi-square analysis was conducted in order to identify the pattern of primary drug of choice reported at admission to treatment among API, Caucasian, African American and Latino populations. As can be seen in Table 2, the pattern of drug use for API seemed to be similar to that for Caucasian. For both groups, heroin/opiate was the most chosen drug. However, African American chose cocaine/crack most frequently, and the majority of Latino chose heroin/opiate. A significant chi-square (χ_2) of 36,283 ($p < .0001$) showed that the overall relationship between API and the other three ethnic groups was significantly different. The chi-square (χ_2) compared across the ethnic groups whether the proportion of heroin/opiate, cocaine/crack, and marijuana within each group were different. The significant chi-square suggested that each ethnic group has a different pattern of drug of choice that supported hypothesis 1.

Table 2. Primary Drug of Choice by Ethnic Groups

	Ethnic group			
Drug of choice	Asian Pacific Islander (n = 2563)	Caucasian (n = 235,951)	African American (n = 172,908)	Latino (n = 59,184)
Heroin/opiate	40.69%	44.29%	27.71%	61.33%
Cocaine/crack	27.51%	27.75%	48.49%	20.17%
Marijuana	31.80%	29.97%	23.80%	18.50%
Total	100%	100%	100%	100%

An analysis of variance (ANOVA) was performed to test the second and third hypotheses that APIs would have a different drug use pattern and length of drug use than the other ethnic groups. The demographic data, the mean of the length of use, frequency of use in the last 30 days, and their corresponding standard deviation of each ethnic group are presented in Tables 3 and 4. The average years of use for API was 11.23 years (SD = 9.05). APIs had lower years of use than African American (M = 14.21 years, AD = 9.02) and Latino (M = 13.00 years, SD = 9.24), but almost equivalent with Caucasian (M = 11.16 years, SD = 8.98). The length of use between API and the other ethnic groups were significantly different overall $F(3,470602) = 3888.65$, $p < .0001$. Because the ANOVA was significant, and it was a multiple group comparison test, a post hoc test, Tukey's Studentized range test, was performed to conduct pair-wise comparisons. In the post hoc test, the results suggested that API had significantly shorter length of use than Latino and African American. Both Latino and African American used drugs longer than API. The significant ANOVA results suggested that the mean length of use of the four ethnic groups was statistically different overall. It was the Tukey's results that provided evidence that APIs mean length of use was statistically less than Latino and African American population specifically, but not from the Caucasian population. The significant ANOVA and Tukey's test results supported hypothesis 2.

Table 4 describes means and standard deviations of frequency of use for the four ethnic groups. In the last 30 days before they were admitted to treatment, API reported using drugs 18.40 days (SD = 12.84). Caucasian reported the same average of 18.27 days (SD = 13.18); African American had a slightly lower frequency of use of 17.49 days (SD = 13.03), and highest frequency of use for Latino at 20.71 days (SD = 12.76).

Table 3. Average Years of Use by Ethnic Groups

Ethnicity	Mean	SD	Tukey
Asian American Pacific Islander	11.23	9.05	a,b
Caucasian	11.16	8.98	--
African American	14.21	9.02	a
Latino	13.00	9.24	b

a, b $p < .0001$

Note: rows sharing the same subscript are significantly different from each other

Table 4. Frequency of Use in Last 30 Days by Ethnic Groups

Ethnicity	Mean	SD	Tukey
Asian American Pacific Islander	18.40	12.84	a,b
Caucasian	18.27	13.18	--
African American	17.49	13.03	a
Latino	20.71	12.76	b

a, b $p < .0001$

Note: rows sharing the same subscript are significantly different from each other

Latino reported the highest mean frequency of use at 20.71 days in the last 30 days and API had mean frequency of use at 18.40 days. The second ANOVA test was conducted to test drug use pattern among the four ethnic groups $F(3,47602) = 896.15$, $p < .0001$. A Tukey's Studentized range test was also performed to test for inter-group differences and the result showed API was significantly different from Latino and African American. Latino had higher frequency than API, whereas, African American had lower frequency of use than API. The significant ANOVA results suggested that the mean frequency of use of the four ethnic groups was statistically different overall. The Tukey's test results suggested that API mean length of use was statistically less than Latino and more than African American population specifically but not statistically differently from Caucasian. The significant ANOVA and Tukey's test results supported hypothesis 3.

Table 5 illustrates the first treatment attempt percentages of the four ethnic groups. APIs have the highest percentage of first treatment attempt at 41.20% compared to Caucasian (36.06%), Latino (28.16%), and African American (37.48%). A chi-square test was performed to test Hypothesis 4 that API's percentage of first treatment attempt would differ from the other ethnic groups. A significant chi-square of 1,751 ($p < .0001$) showed that the overall relationship between API and the other three ethnic groups was significantly different. The result of the chi-sq test (χ_2) showed that the percentages of first time treatment attempts for each ethnic group was statistically different and APIs seemed to have the highest percentage of first treatment attempt. The test results supported hypothesis 4.

Table 5. First Treatment Attempts by Ethnic Groups

Ethnicity	N	Percentage of first treatment attempt
Asian American Pacific Islander	2563	41.20%
Caucasian	235,951	36.06%
African American	172,908	37.48%
Latino	59,184	28.16%

Discussion

Asian Pacific Islanders admitting to drug treatment is still a new topic that few studies have focused on. The purpose of this study was to provide a national perspective of API treatment population relative to other ethnic groups in the United States. This study is a comparison study to illustrate and describe API treatment and drug use characteristics in light of the other ethnic groups. The current study is a preliminary study to document API treatment population through four hypotheses regarding each ethnic group's primary drug of choice at admission to treatment, length of use, frequency of use, and proportion of first time treatment attempts. From this study, the data has shown that APIs have a different drug of choice than the other ethnic groups but they seem to be using drugs as long as and as frequently as the other ethnic groups compared in this study. In terms of frequency and years of use, APIs differ from African American and Latino, but APIs tend to be similar to Caucasian. An important finding was that over 40% of the APIs admitted to drug treatment were seeking their first attempt at treatment.

Drug use pattern

The first hypothesis was supported that the proportion of API who used heroin/opiate, cocaine/crack, and marijuana as a primary substance were different from those of the other ethnic groups, Caucasian, African American, and Latino. APIs preferred heroin mostly, followed by marijuana and to a lesser extent cocaine/crack as their primary drug of choice. Although APIs did not have the highest proportion of heroin/opiate percentage (40.69%) of the four groups, the proportion was much higher than African American (27.71%). The proportion of APIs using cocaine/crack as their primary drug of choice was 27.51%. APIs had almost equal proportion of cocaine/crack

as Caucasian at 27.75%, and APIs, had a higher proportion than Latino at 20.17%. The findings in the current study are consistent with previous studies that showed an increase of APIs entering treatment for cocaine/crack use and that the fact APIs are catching up with other populations in their cocaine/crack use (*The Dasis Report*, 2002).

Length of use and frequency of use

The second and third hypotheses tested if API's length of use and frequency of drug use would be different among the four ethnic groups. Although results of the ANOVA showed a significant difference in terms of length of use and frequency of use, the mean length of use was very similar across the four ethnic groups. API had 11.23 mean years of use prior to entering treatment, a relatively large difference from African American at 14.21 mean years, the longest mean length of use of the four groups. However, APIs were using drugs almost as often as other ethnic groups. API mean number of days of use was 18.40, similar to Caucasian average at 18.27 days and Latino at 20.71 days, the highest of the four groups. This may suggest that APIs have been using drugs as long as the other ethnic groups. The frequency of drug use among APIs suggest that heavy drug use among APIs is as serious as any other ethnic groups, however, APIs seem to prefer different type of drugs. Though APIs have preference for different drugs than the other ethnic groups, APIs abuse drugs just like everyone else.

First treatment attempt

The last hypothesis tested whether the percentage of first treatment attempts within each group would be different. Chi-square results showed a significant difference among the four ethnic groups. APIs had the highest proportion of first treatment attempt than the other ethnic groups. APIs had 41.20% entering treatment for the first time,

compared to Latino at 28.16% as the lowest first treatment attempt proportion. These results echo what past TEDS data have demonstrated. API treatment needs have increased dramatically (*The Dasis Report*, 2002). Despite cultural barriers that APIs are confronted within drug treatment in their community, the current study suggests that APIs have a pressing need for treatment.

Strength of study

The strength of this study was a national sample that included API, Caucasian, African American, and Latino treatment population. The TEDS sample allowed a comparison study of the four ethnic groups where APIs could be understood in relation to the other ethnic groups. The sample was large enough to conduct statistical analyses in which generalizations could be made. Thus, the study was able to give a "big picture" view of the topic.

Limitations of study

This study has some limitations. Episode data prevented the study from individualizing the data. We could not follow a person's treatment history. API was a large group of sub-Asian groups rather than individual groups. Heroin and other opiates were grouped under one category. This prevented the analysis from differentiating whether the drug use was heroin or other opiates such as opium. Prior research has shown that APIs have a high rate of opium use and a much lower rate of heroin use among Southeast Asian and Filipino populations. API was a much smaller population than the other ethnic groups. In the sample, Caucasian sample size was 235,951 episodes and the sample size for API was 2,563 episodes. APIs consisted of .5% of the entire sample of 470,606 episodes. We were comparing across ethnic groups by proportion and

means within each ethnic sample. The effect is so large that the statistical tests could easily achieve statistical significance.

Future studies

We have been able to characterize basic drug behavior of APIs, Caucasians, African Americans, and Latinos admitted to treatment in the current study. We also understand that APIs have a far greater proportion of new treatment episodes than other ethnic groups. In this study, we have learned that APIs have urgent needs for treatment services, and they are coming forward in their community. In future studies, the investigation of reasons for the rapid increase of APIs entering treatment and the route they are admitted to treatment would be useful in facilitating effective treatment for the community.

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